Diagnosis of Human Pulmonary Dirofilariasis

TO THE EDITOR: Since the publication[1] in the February issue of the first case of human pulmonary dirofilariasis (HPD) acquired in the West, I have received several inquiries from practicing physicians regarding the clinical and laboratory diagnosis of HPD vis-a-vis other solitary pulmonary nodules, particularly malignant ones. Perhaps a public reply would be of interest to others as well.

TABLE 1.—*Laboratory Data of Patients With Pulmonary Dirofilariasis*

Test	*No. Examined*	*Results*
Eosinophilia	19	Median 5% Range 0-14%
Serologic tests for filariasis	9	IHA: 6—3+ BF: 4—3+ CF: 1—
Search for microfilariae in the venous blood	5	All negative
Right heart catheterization for adult worm	1	Negative
Transthoracic needle aspiration	5	3 negative 2 inflammatory cells

BF = bentonite flocculation; CF = complement fixation; IHA = indirect hemagglutination

A review of the cases of HPD published in the United States[2] shows that most laboratory procedures (Table 1) give nonspecific or noncontributory results except for transthoracic needle aspirations, which have been consistently negative for malignant cells. The antigenic stimulus of a single worm is apparently too limited to elicit a systemic response detectable by current laboratory methods.

Clinically (Table 2) the most likely candidate for HPD is a white man between the ages of 40 and 60, who resides in an area endemic for the dog heartworm, had negative findings on an x-ray study of the chest about a year ago and now has a solitary pulmonary nodule 2 cm or less in diameter, which is either asymptomatic or associated with a mild respiratory illness and may be located in any lobe of the lungs.

The association of these epidemiologic criteria with a negative needle aspirate should suggest the possibility of HPD preoperatively. At this time, however, a definitive diagnosis can be made only surgically.

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REFERENCES

1. Ciferri F: Human pulmonary dirofilariasis in the West. West J Med 134:158-162, Feb 1981
2. Ciferri F: The epidemiology of human pulmonary dirofilariasis in the United States. Presented at the 29th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Atlanta, Georgia, November 4-7, 1980

TABLE 2.—*Criteria in the Differentiation of Human Pulmonary Dirofilariasis (HPD) and Malignant Solitary Pulmonary Nodules*

	HPD	*Malignant**
Patient Characteristics		
Residence in USA	Southeast and Northwest	
Median age	52	Over 45
Gender affinity	Male (66%)	Male
Ethnic affinity	Caucasian (90%)	
Clinical Features		
Asymptomatic	66%	Symptoms usually present
Mild respiratory illness	34%	
Radiographic Features		
Median interval from last negative chest x-ray	1 year	
Diameter of nodule	≤2cm (75%)	≥2cm
Location in the lungs	Any lobe	Predominantly upper lobes
Serial radiographs	No change	Changes likely
Final outcome	Calcification	Death

*Adapted from Fraser RG, Paré JAP: Diagnosis of Diseases of the Chest—2nd Ed, Philadelphia, W. B. Saunders, 1978

Teaching the Pelvic Examination in an Internal Medicine Residency Program

TO THE EDITOR: Teaching pelvic examination skills has been a problem in medical education. Traditionally, knowledge of gynecological examination has been acquired via textbook assignments, audiovisual materials, lectures and plastic models. In 1978 Kretzschmar described the gynecology teaching associate program (GTA) as a new method of teaching pelvic examination skills to undergraduate students.[1] According to the GTA concept, nonphysician women function as both instructors and patients for the pelvic examination using a team-teaching approach. He found that GTA's were well accepted by students. Qualities